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09/991,304	10/19/2001	Wayne E. Fisher	M-11382 US	5056

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EXAMINER

LE, UYEN T

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 10/27/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/991,304

Applicant(s)

FISHER, WAYNE E.

Examiner

Uyen T Le

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because it exceeds the limit of 150 words. Correction is required. See MPEP § 608.01(b).
2. The specification is further objected to because the information regarding related applications has not been updated.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Koeppen (US 5,761,667) provided by the applicant.

Regarding claim 1, Koeppen discloses a method of maintaining an index during a reorganization of data in a database (see the abstract). The claimed “storing each root segment in a separate storage location” and “retaining each root segment in its storage location during a reorganization of data in said database” merely read on the fact that

the method of Koeppen reorganizes an IMS database by parallel load processes (see column 5, lines 4-18).

Regarding claim 2, Koeppen discloses the roots segments stored in contiguous storage locations when Koeppen shows the sequential points used in the load process (see column 5, lines 32-46).

Regarding claim 5, Koeppen discloses that the database is an IMS full function database (see the abstract).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koeppen (US 5,761,667) provided by the applicant.

Regarding claims 3, 4, 6, although Koeppen does not specifically show fixed storage locations for roots segments, it would have been obvious to one of ordinary skill in the art to include such features while implementing the method of Koeppen in order to facilitate quick access to the root segments.

5. Claims 7-12, 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koeppen (US 5,761,667) provided by the applicant, in view of Martin, Jr. et al (US 2002/0143763).

Regarding claim 7, which recites the same limitations of claim 1 except the non-root segment and storing each non-root segment associated with a root segment in a block of storage locations in which said root segment is also stored, see the reasons stated in claim 1 above. Furthermore, since the database is an IMS full function database, clearly each record includes a root segment and one or more on-root segment. Although Koeppen does not specifically show storing the root and associated non-root segment in the same location, Martin shows that it is advantageous to store the root segment and associated non-root segments close together (see 0012). Therefore, it would have been obvious to one of ordinary skill in the art to include the claimed features while implementing the method of Koeppen in order to facilitate reorganization as taught by Martin.

Claim 60 recites a computer program product for the method of claim 7, thus is rejected for the same reasons stated in claim 7 above.

Claims 8-12 recite the same limitations of claims 2-6, thus are rejected for the same reasons stated in claims 2-6 above.

6. Claims 13-18, 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koeppen (US 5,761,667) provided by the applicant, in view of Marshall et al (US 2003/0135478).

Regarding claim 13, which recites the same limitations of claim 1 except the non-root segment and each rot segment comprises a prefix component an a data component, see the reasons stated in claim 1 above. Furthermore, since the database

is an IMS full function database, clearly each record includes a root segment and one or more on-root segment. Although Koeppen does not specifically show each root segment comprises a prefix component and a data component, it is well known in the art for a root segment to include a prefix and data as shown by Marshall (see 0143). Therefore, it would have been obvious to one of ordinary skill in the art to include the claimed features while implementing the method of Koeppen in order to minimize storage by storing the prefix component instead of the entire root segment for reorganization.

Claim 61 recites a computer program product for the method of claim 19, thus is rejected for the same reasons stated in claim 13 above.

Claims 14-18 recite the same limitations of claims 2-6, thus are rejected for the same reasons stated in claims 2-6 above.

7. Claims 19-21, 23, 25, 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koeppen (US 5,761,667) provided by the applicant, in view of Marshall et al (US 2003/0135478), further in view of Martin, Jr. et al (US 2002/0143763).

Claim 19 essentially recites the limitations of claim 13 with the added limitation of storing the prefix component of each non-root segment which is associated with the first root segment in a block of storage location in which said prefix component of said first root segment is also stored. Therefore, claims 19 is rejected for the same reason stated in claim 13 above. Furthermore, Martin shows that it is advantageous to store the root

segment and associated non-root segments close together (see 0012). Therefore, it would have been obvious to one of ordinary skill in the art to include the claimed features while implementing the method of Koeppen and Marshall in order to facilitate reorganization.

Claims 20, 21 recite the same limitations of claims 2, 5, thus are rejected for the same reasons stated in claims 2, 5 above.

Regarding claim 23, although Koeppen, Marshall and Martin do not specifically show the claimed secondary index, it would have been obvious to one of ordinary skill in the art to include such an index for storing reorganized data.

Regarding claim 25, Koeppen discloses that the database is an IMS full function database (see the abstract).

Claim 62 recites a computer program product for the method of claim 19, thus is rejected for the same reasons stated in claim 19 above.

8. Claims 22, 24, 26-36, 47-55, 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beier et al (US 5,933,820) provided by the applicant.

Regarding claim 22, Beier discloses the claimed method for facilitating correction of an index after a reorganization of data in a database (see the abstract). The claimed unique token assigned to each target segment and corresponding index entry is met by the unique identifier of the targeted data element which is an entry in the indirect index in the method of Beier. Furthermore, Beier clearly shows that the index is updated with the new location whenever a targeted element is moved. Although Beier does not

specifically show reading the unique identifier of each target element until a match is found between the target segment and the index entry, it would have been obvious to one of ordinary skill in the art to do so in order to find matching entry in the index for update.

Claim 26 essentially recites the same limitations of claims 22, thus is rejected for the same reasons stated in claim 22 above.

Claim 31 merely differs from claim 26 by the preamble, thus is rejected for the same reasons stated in claim 26 above.

Claims 63-65 recite a computer program product for the method of claims 22, 26, 31, thus are rejected for the same reasons stated in claims 22, 26, 31 above.

Regarding claims 24, 28, 29, 33, 34, Beier discloses an IMS database (see column 8, lines 62, 63).

Regarding claims 47-55, although Beier does not specifically show determining the validity of the address of the first index entry and comparing the unique token as claimed, it would have been obvious to one of ordinary skill in the art to include such features in order to track data.

Regarding claims 27, 32, the claimed secondary index is met by the indirect index of Beier.

Regarding claims 30, 36, Beier discloses said unique token includes a born on date when Beier shows each data element having a unique identifier assigned by the DBMS at the time a data element is created (see the abstract).



Regarding claim 35, although Beier does not specifically show storing root segment in a fixed storage location and retaining the root segment in said fixed location, it would have been obvious to one of ordinary skill in the art to include such features in order to facilitate quick access to the root segment.

9. Claims 37-46, 56-59, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beier et al (US 5,933,820) provided by the applicant, in view of Marshall et al (US 2003/0135478).

Regarding claim 37, which recites the same limitations of claim 31 except the non-root segment and each root segment comprises a prefix component and a data component, see the reasons stated in claim 31 above. Furthermore, since the database in Beier is an IMS full function database, clearly each record includes a root segment and one or more on-root segment. Although Beier does not specifically show each root segment comprises a prefix component and a data component, it is well known in the art for a root segment to include a prefix and data as shown by Marshall (see 0143). Therefore, it would have been obvious to one of ordinary skill in the art to include the claimed features while implementing the method of Beier in order to minimize storage by storing the prefix component instead of the entire root segment for reorganization.

Regarding claims 56-58, although Beier does not specifically show determining the validity of the address of the first index entry and comparing the unique token as claimed, it would have been obvious to one of ordinary skill in the art to include such features in order to track data.

Claim 41 merely recite how to locate non-root segments from a root segment in an index entry. Beier clearly shows such features (see the abstract).

Claims 38, 39, 40, 42, 44, 45, 46 recite the same limitations of claims 32, 33, 35, 36, thus are rejected for the same reasons stated in claims 32, 33, 35, 36 above.

Regarding claim 43, although Beier does not specifically show that the unique token for an index entry and each non-root target segment comprises root segment identifier, it would have been obvious to one of ordinary skill in the art to include such features since each non-root segment is associated with a root segment and an entry in the index.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lakhamraju et al (US 6,343,296) teach on-line reorganization in object-oriented databases.

Iyer et al (US 6,411,964) teach in-place online reorganization of a database.

Smith (US 2003/0088572) teaches unloading a hierarchical database utilizing segment specific selection criteria.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uyen T Le whose telephone number is 703-305-4134. The examiner can normally be reached on M-F 7:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Uyen Le  
Primary Examiner  
AU 2171

20 October 2003